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Job engagement : examining the relationship with situational and personal factors

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JOB ENGAGEMENT: EXAMINING THE RELATIONSHIP WITH SITUATIONAL
AND PERSONAL FACTORS

A Thesis

Presented to

The Faculty of the Department of Psychology

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Smita Vanam

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JOB ENGAGEMENT: EXAMINING THE RELATIONSHIP WITH SITUATIONAL
AND PERSONAL FACTORS

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ABSTRACT

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by Smita Vanam

The major purpose of this study was to examine the extent to which two job resources, autonomy and supervisor support, and two personality traits, openness to experience and extraversion, were related to job engagement and whether they interact with each other to influence job engagement. In particular, this study examined whether personality traits moderate the relationship between job resources and job engagement.

Using a sample of 162 full-time employees, the results showed that only autonomy and supervisor support related significantly to job engagement even when personality traits were taken into consideration. However, the personality traits did not relate to job engagement once job resources were taken into account, nor did they interact with the job resources to influence job engagement. These findings, in part, confirm a proposition of the Job Demands-Resources model that job resources are positively related to job engagement. Implications of the findings are discussed.

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INTRODUCTION

Job engagement is a burgeoning psychological concept important for both Occupational Health Psychology and Human Resources Management as it has the potential to simultaneously serve their purposes of employee welfare and organizational performance, respectively (Schaufeli & Salanova, 2007). To the individual employee, job engagement signifies good health, well-being, optimal functioning, and favorable performance which in turn mean success to the organization (Schaufeli & Salanova, 2007). In other words, “what is good for the employee’s health and well-being is generally good for the organization, and often vice versa” (p.139).

Interests in the concept of job engagement began as a result of research on job burnout (Maslach, Schaufeli, & Leiter, 2001). While job burnout is characterized by emotional fatigue and mental detachment from work (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), work or job engagement is defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli, Salanova, González-Romá, & Bakker, 2002 p.74).

Studies about positive states such as job engagement are less exhaustive than those about negative states such as burnout (Diener, Suh, Lucas, & Smith, 1999), possibly because engagement is a relatively new construct (Mauno, Kinnunen, & Ruokolainen, 2007). In addition, Cooper, Dewe, and O’Driscoll (2001) asserted that much of the previous research on occupational health has focused exclusively on the effects of workplace characteristics on employee well-being and ignored the contribution of individual characteristics such as personality traits or values. This relative lack of

research attention to personal variables in the development of positive employee behaviors (e.g., job engagement) is untoward as employee behavior and performance are not driven by circumstances alone but also by one's work styles, approaches, outlook, perceptions, traits, and actions (Hallberg, Johansson, & Schaufeli, 2007). Thus, it is important to know how situational and individual factors, alone and/or together, impact job engagement. The examination of an interaction effect between situational and individual characteristics has especially been under-explored not only in the area of engagement, but also in the area of burnout (Maslach et al., 2001). Studies of interaction effects could tell us why in certain cases, in spite of working in the same environment and having access to the same resources, some employees thrive in their jobs and others do not. Towards this end, Hallberg et al. (2007) attempted to investigate how situational aspects like job resources and job demands and personal aspects like a Type A personality interacted with each other and how this interaction affected job engagement.

Although Hallberg et al. (2007) failed to find any interaction between situational and personal factors with respect to job engagement, it is a topic worth exploring for many logical reasons. Not only is job engagement a crucial phenomenon in Organizational Behavior, but also under-explored as noted before despite its high significance for employee well-being. Much research needs to be undertaken in this area to understand how individual characteristics and work situations together influence job engagement. Therefore, the purpose of the current study is to examine the associations among two of the Big Five personality traits (i.e., openness to experience and extraversion), work resources (i.e., autonomy and supervisor support), and job

engagement. The following section reviews literature on the aforementioned relationships and provides hypotheses.

Job Engagement

Job engagement has been referred to as a developing positive phenomenon in the realm of positive psychology (Seligman & Csikszentmihalyi, 2000). Luthans (2003) underscored the importance of positive work psychology or more specifically, Positive Organizational Behavior (POB), which is defined as “the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today’s workplace” (p.179). Wright (2003) opined that POB should include studies on employee well-being as stand alone goals as was recommended decades ago by the Conservation of Resources (COR) theory which deemed it fit that positive phenomena at the workplace get as much consideration as negative outcomes such as job burnout (Hobfoll, 1989).

Job engagement is composed of three dimensions, vigor, dedication, and absorption (Schaufeli, Martinez, Marques Pinto, Salanova, & Bakker, 2002; Schaufeli et al., 2002). Vigor refers to a feeling of high energy and mental hardiness while working, and a willingness to persist in tough situations and make commendable efforts on one’s job. Dedication refers to a feeling that one experiences of having a strong connection with one’s work, along with a feeling of being important, eager, motivated, confident, and sufficiently challenged. Finally, absorption refers to a feeling of being completely concentrated on or immersed in one’s work to such an extent that time appears to pass quickly and yet one finds it difficult to detach oneself from one’s work.

Though job engagement is found to be correlated with other job related attitudes such as job satisfaction, job involvement, and intrinsic motivation, it, nevertheless, maintains its distinctness from them (Rich, 2006). Job satisfaction involves an evaluation of a job's actual outcomes in relation to desired outcomes, while engagement involves an evaluation of an individual's work experiences and his/her work behaviors. Job involvement, on the other hand, is a cognitive state wherein an individual identifies psychologically with his/her job, while job engagement involves the use of not only cognitions but also emotions and behaviors. Intrinsic motivation as the name suggests is a specific form of motivation that is concerned with the inherent reasons for why an action takes place, whereas engagement is concerned with the intrinsic as well as extrinsic reasons for efforts or behaviors involved in the performance of a job role (Rich, 2006). Job engagement also distinguishes itself from personality traits since it reflects a person's current state of mind and not his/her characteristic reaction (Gray & Watson, 2001).

While the rising importance of job engagement has brought about a shift of focus from the negative to the positive in the theoretical world and vice versa (i.e., the shift of focus in the theoretical world is one of the reasons why job engagement is being explored more often now than before), the practical world is not far behind in embracing the concept. Today organizations are focusing on managing human capital while the traditional focus on cost cutting, revenue generation, and management control stays in the background (Bakker & Schaufeli, 2008) because organizations have realized that positive outcomes at the individual level eventually lead to business results (Saks, 2006).

The positive consequences of job engagement are many and range from positive job-related attitudes, outlook and employee health to extra-role behavior, and general performance (Schaufeli & Salanova, 2007). To put it specifically, engaged persons experience more job satisfaction, higher commitment to their organizations, have lesser or no intentions to quit their jobs and/or look for opportunities elsewhere (Demerouti, Bakker, deJong, Janssen, & Schaufeli, 2001; Schaufeli & Bakker, 2004), and enjoy better mental and psychosomatic health (Demerouti et al., 2001; Hallberg & Schaufeli, 2006; Schaufeli, Taris, & Van Rhenen, 2008). Most importantly, engagement seems to improve performance (Salanova, Agut, & Peiro, 2005). In their study of a sample of contract employees from hotels and restaurants, Salanova et al. (2005) found that as engagement with work increased, so did service quality, loyalty to the organization, and performance. Similar findings were reported by Harter and Schmidt (2002) who, in a study of 7939 business-units across 36 companies, found that employee engagement was positively related to business-unit performance (i.e., customer satisfaction and loyalty, profitability, productivity, turnover, and safety).

Furthermore, Sonnentag (2003) found that work engagement mediated the relationship between recovery from stress and proactive behavior which was defined as the active approach one took towards improving one's present condition rather than passively adjusting to it (Crant, 2000). More specifically, Sonnentag (2003) found that employees who felt they had recovered adequately in their leisure time experienced higher work engagement on the following work day, and that the resultant positive

emotions led them to take initiatives at work, display more proactive behavior, and pursue learning goals.

Job engagement is also posited to have reciprocal relationships with personal resources such as self-efficacy. Self-efficacy is defined as the confidence one has in oneself to take actions that are required to elicit desired results (Bandura, 1997). It is found that efficacy beliefs may bring about engagement, which, in turn, boosts efficacy beliefs (Salanova, Grau, Cifre, & Llorens, 2000; Llorens, Schaufeli, Bakker, & Salanova, 2007). A similar result was obtained by Salanova, Bakker, and Llorens (2006) who found that personal resources (e.g., self-efficacy beliefs) and organizational resources (e.g., social support climate, clear goals) facilitated work-related flow (defined as absorption and enjoyment of work and intrinsic work motivation), which in turn had a positive influence on personal and organizational resources.

Many apparent and demonstrated benefits of job engagement are driving researchers and companies alike to find various factors that could lead to the development of job engagement among the work force. The following section will review some situational characteristics that are related to job engagement.

Situational Antecedents of Job Engagement: Job Characteristics

In an effort to identify the potential antecedents of job engagement, Demerouti et al. (2001) proposed the Job Demand-Resources model (JD-R), which argues that job resources augment job engagement and a lack of them and/or a presence of job demands brings about burnout. The JD-R model states that while every job or occupation may have its own unique features that lead to engagement or burnout, these factors can be

divided into two general categories, job demands and job resources (Demerouti et al., 2001; Bakker, Demerouti, de Boer, & Schaufeli, 2003). Job demands are defined as “those physical, social, or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs (e.g., exhaustion)” (Demerouti et al., 2001, p. 501). Some examples of job demands are high work pressure, responsibility overload, poor work environment, and reorganization problems (Bakker et al., 2003). Job resources, on the other hand, are “those physical, psychological, social, or organizational aspects of the job that may do any of the following; 1) be functional in achieving work goals; 2) reduce job demands and the associated physiological and psychological costs; and 3) stimulate personal growth and development” (Demerouti et al., 2001, p. 501). Some examples of job resources are pay, career opportunities, job security, supervisor and/or coworker support, role clarity, performance feedback, skill variety, job control (autonomy), and task significance (Hackman & Oldham, 1976; Bakker et al., 2003).

A second assertion that the JD-R model makes is that irrespective of the type of job, engagement can reduce and burnout can develop if demands are high and resources are limited (Demerouti et. al., 2001). Previous studies have shown support for this hypothesis by demonstrating that high job demands lead to emotional and physical exhaustion and health problems in employees, and that the absence of job resources can weaken motivation, create or increase cynicism, and reduce extra-role behavior (e.g., Bakker et al., 2003; Bakker, Demerouti, & Schaufeli, 2003; Hallberg et al., 2007). The JD-R model also specifies that the lack of engagement is not a result of exhaustion but of

the lack of job resources. This was corroborated in a longitudinal study by Mauno et al. (2007) who investigated work engagement among 409 Finnish health care personnel over a two year time period and found that job resources predicted job engagement better than job demands. Mauno et al. (2007) also found that not only were the vigor and dedication dimensions of work engagement frequently experienced by their participants but also that the average levels of the two did not change across the follow-up period. In fact it was found that the experience of work engagement was practically stable during the 2-year period. This supports the assertion by Gray and Watson (2001) that job engagement is not a fleeting experience but a more general frame of mind.

Furthermore, Saks (2006) showed that job and organization engagement partially mediated the relationships between their antecedents (job characteristics, rewards and recognition, social support at work, fairness at work) and job satisfaction, organizational commitment, intentions to quit, and organizational citizenship behavior directed at the organization. In other words, adequate job resources, suitable rewards and recognition, ample support from colleagues and supervisors, and fair procedures at work all helped to increase engagement, and this reinforced engagement, in turn, led to the employees feeling satisfied with their jobs, committed to their organizations, having lesser thoughts of quitting, and performing more proactive behaviors in favor of their organizations. A similar pattern of findings was also obtained by Salanova and Schaufeli (2008) in their sample of Dutch and Spanish employees wherein work engagement mediated the relationship between job resources (e.g., job control, job variety, feedback) and proactive organizational behaviors such as taking personal initiative and learning motivation. It

appears that available job resources increase work engagement, which in turn, brings about more proactive behavior.

The JD-R model, despite being a relatively new occupational stress model, has gained empirical support in several studies as noted above and is found to be robust. That is, it holds true for samples irrespective of nationalities, occupations, operationalizations, and methods of data collection (Llorens, Bakker, Schaufeli, & Salanova, 2006). Therefore, one purpose of the present study is to test the proposition of the JD-R model by examining relationships between job resources (autonomy and supervisor support) and job engagement.

Autonomy. Autonomy is the ability to decide how, when, and where a job is to be done (Clark, 2001). Research suggests that employees who have a say over how they do their jobs enjoy general well-being (Hackman & Oldham, 1976; Clark, 2001) and experience less stress (Parasuraman & Alutto, 1984). Further, Salanova et al. (2005) found that training opportunities in organizations and job autonomy were positively related to work engagement across different organizations. Autonomy correlating positively with engagement has also been evidenced in several other studies (e.g., Hallberg et al., 2007; Llorens et al., 2007; Mauno et al., 2007).

Supervisor Support. Supervisor support refers to those behaviors of managers/supervisors that are perceived as actions that convey a sense of caring, assist behaviors directed towards achieving pre-determined goals, or promote employee well-being (Rooney, 2004). The definition of the construct itself links supervisor support to employee well-being, which is an important element of job engagement as noted by

Schaufeli and his colleagues (2004). In addition, in a recent longitudinal study, Lim (2005) found that adequate supervisor support reduces the impact of work stressors as well as perception of work strain, and increases employee satisfaction. In a study conducted on police radio dispatchers, Kirmeyer and Dougherty (1988) found that under high perceived load, dispatchers with high social support engaged in more coping actions and felt less tension-anxiety than dispatchers who received low social support. Further, Demerouti et al. (2001) have shown that a lack of supervisor support can lead to disengagement. Thus, based on the above findings, the following hypotheses are posited.

Hypothesis 1a: Autonomy will be positively associated with job engagement.

Hypothesis 1b: Supervisor support will be positively associated with job engagement.

Personal Antecedents of Job Engagement: Personality Characteristics

Behavior is often determined by situational and individual factors (Hattrup & Jackson, 1996). Personal variables of employees could be important determinants of their adaptation to their work environments (Hobfoll, 1989; Judge, Locke, & Durham, 1997). Unfortunately, the JD-R model is limited to describing associations between situational variables and job engagement. Hence in order to achieve a better understanding of job engagement, the present study also investigates some personality characteristics in their role as personal antecedents of job engagement.

The Five Factor Model of personality (FFM) or the “Big Five” is a popular model of personality that characterizes human personality into five different factors. Though this appears like an economic categorization, the FFM is quite expansive and widely

supported in much empirical research (Digman, 1990; Goldberg, 1993; O'Connor, 2002). It is made up of 1) neuroticism that characterizes individuals as depressed, anxious, insecure, and unstable versus emotional stability that characterizes individuals as being controlled, secure, and stable, 2) extraversion that describes someone as being sociable, talkative, and assertive versus introversion that describes someone as being reticent, silent, and reserved, 3) openness to experience which is linked to traits such as an ability to imagine, curiosity, artistic sensitivity, and originality versus closeness to experience which is linked to traits such as conventionalism, 4) agreeableness that includes such qualities as being cooperative, cheerful, and supportive versus rudeness which includes such qualities as being hostile, aggressive, and antagonistic, and 5) conscientiousness which is defined as being reliable, dependable, industrious, achievement-oriented, and organized versus being not dependable (McCrae & John, 1992).

Due to its validity and wide acceptance, the FFM has been extensively utilized in both basic and applied research (Barrick & Mount, 1991; Salgado, 1997; Judge, Higgins, Thoresen, & Barrick, 1999; Hurtz & Donovan, 2000; Judge, Bono, Ilies, & Gerhardt, 2002). However, despite the wide spread use of the FFM in psychology, much research has studied only neuroticism and extraversion in relation to job engagement (Schaufeli & Salanova, 2007). For instance, Langelaan, Bakker, van Doornen, and Schaufeli (2006) sought to find whether burnout and work engagement could be differentiated on the basis of personality and temperament. In a study conducted on 572 Dutch employees, they used discriminant analysis to distinguish burned-out and engaged employees from their respective non-burned-out and disengaged counterparts. They found neuroticism to be

positively linked to burnout, and negatively related to work engagement, and extraversion and mobility – defined as an “ability to respond adequately to changes in stimulus conditions, including environmental demands” (p.574) - to be positively linked to work engagement.

Given the relative lack of research on individual variables in relation to job engagement, one of the main goals of the present study is to examine what relationships exist between personality and job engagement, focusing exclusively on two of the Big Five personality dimensions, openness to experience and extraversion.

Openness to Experience. Openness to experience is an important personality dimension that can explain creativity or artistic temperament, social attitudes and behavior, an ability to be hypnotized, changes one makes in his/her career, and one’s ethical reasoning (McCrae & Costa, 1997). According to Digman (1990) and John (1990), openness to experience refers to people’s readiness to change their current attitudes and behaviors in the face of new, better ideas or situations. People high on openness to experience are not just passively receptive to new ideas but may actively seek out better approaches and experiences and analyze them. Further, such individuals need variety and complexity in life and are good at deciphering ambiguous information (McCrae & Costa, 1997).

Openness to experience has been studied in relation with various work attitudes and behaviors such as organizational commitment (e.g., Moss, McFarland, Ngu, & Kijowska, 2007) and job performance (e.g., Burke & Witt, 2002; Griffin & Hesketh, 2004), but, to the best of the researcher’s knowledge, not in relation with job engagement.

Among studies that relate openness to experience with dimensions that are similar to job engagement is a study by Keyes, Shmotkin, and Riff (2002). In their study, Keyes et al. (2002) categorized well-being into subjective well-being (SWB) and psychological well-being (PWB) where SWB involved general life satisfaction and happiness, and PWB involved human development and an ability to deal with existential challenges of life. It was found that adults with higher PWB than SWB were younger, had more education, and showed more openness to experience. As noted before, well-being is an important element of job engagement hence it can be assumed that openness to experience will be positively related to job engagement.

Extraversion. Extraversion is perhaps the most central factor in the FFM that influences a wide range of employee behaviors (e.g., Digman, 1990). It includes such behavioral tendencies as being sociable, gregarious, assertive, talkative, and active (Barrick & Mount, 1991), and is a good predictor of happiness and positive emotional experience (Diener et al., 1999; Diener & Seligman, 2002). Research shows that extraverts are inclined to experience more positive affect (Costa & McCrae, 1980) and higher subjective well-being (Diener, 1984) than those who are low on extraversion. Therefore, given the propensity of extraverts to be optimistic, it makes sense to assume that those individuals high on extraversion are more likely to experience greater work engagement than those low on extraversion. In fact, Langelaan et al. (2006) have established that work engagement is characterized by low neuroticism in combination with high extraversion and high levels of mobility (i.e., the ability to respond adequately to changes in stimulus conditions, adapt quickly to new surroundings and switch easily

between activities). Thus based on the above research, the following hypotheses are posited:

Hypothesis 2a: Openness to experience will be positively associated with job engagement.

Hypothesis 2b: Extraversion will be positively associated with job engagement.

Interactions Between Situational and Personal Antecedents

Human behavior at the workplace can be best understood when both situational and personal antecedents are considered together (Hatrup & Jackson, 1996). Yet, a very few empirical studies (e.g., Langelaan et al., 2006; Hallberg & Schaufeli, 2006) have reflected on this interaction between the contextual and individual factors in relation to job engagement. Studies have shown that personal resources have positive outcomes on physical and emotional well-being (Pierce, Gardner, Cunnings, & Dunham, 1989; Scheier & Carver, 1992; Chen, Gully, & Eden, 2001), suggesting that, perhaps, personality traits act like resources that individuals can utilize to acquire or save resources (Hobfoll, 2001) that could help them lead a better life. Xanthapoulou, Bakker, Demerouti, and Schaufeli (2007) illustrated this in their study wherein they found that personal resources like self-efficacy, organizational-based-self-esteem, and optimism not only mediated the relationship between job resources and engagement/exhaustion, but also influenced the perception of job resources. Thus, a very important goal of this study is to find if personal resources would moderate the relationship between job resources and job engagement.

With respect to openness to experience, de Jong, van der Velde, and Jansen (2001) found that openness to experience was a moderator in the relationship between job characteristics and job satisfaction. de Jong et al. (2001) examined Growth Need Strength (GNS) - a specific personality variable which they defined as the need for development and 'growth' in the job - and openness to experience as moderators for the relationship between job characteristics and job satisfaction. They found that GNS and openness to experience were closely related and also showed similar moderating effects. More specifically, the relationship between job characteristics (i.e., skill variety and autonomy) and job satisfaction was stronger for those high on GNS and openness to experience than for those who were low on GNS and openness to experience, respectively. Further, it is also seen that those high on the openness to experience dimension tend to be more willing to consider opinions that are different from their own and perform better in the presence of good leaders (George & Zhou, 2001; Lauriola & Levin, 2001; McCrae, 1987). Moss et al. (2007) have demonstrated how the presence of transformational leadership enhanced the positive relationship between openness to experience and organizational commitment. Thus, given the above findings, it is hypothesized that:

Hypothesis 3a: The relationship between job resources (autonomy and supervisor support) and job engagement will be stronger for those who are high on openness to experience than for those who are low on openness to experience.

With respect to extraversion it is seen that extraverts might experience more optimistic emotions than introverts because extraverts are more likely to attend to positive

information in the environment, more likely to interpret ambiguous information in a positive way, or simply are more reactive to positive sensations or experiences as compared to introverts (McCrae & Costa, 1991). A review by Wilson (1981) reports that extraverts are more open to social influences, suggesting that they may benefit from such social influences as supervisor support. Extraversion and its benefits are also improved when autonomy is high. Barrick and Mount (1993) investigated the moderating role of autonomy on the relationships between the Big Five and supervisor ratings of job performance, and found that conscientiousness and extraversion were greater among managers in high-autonomy jobs than those in low-autonomy jobs. Additionally, managers with higher scores on conscientiousness and extraversion performed better in jobs with high autonomy as compared to the managers in jobs with low autonomy. Further, extraversion was also found to be a moderator in the relationship between leader-member exchange (LMX), and performance, turnover intentions, and actual turnover (Bauer, Erdogan, Liden, & Wayne, 2006). In their longitudinal study, Bauer et al. found that there was no relation between LMX and performance, turnover intentions, and actual turnover for those high on extraversion. However, for those low on extraversion there was a relation between LMX and performance as well as turnover intentions such that introverted employees, due to their inability to establish a high LMX relationship, had lower performance ratings and higher turnover intentions. Thus it is expected that:

Hypothesis 3b: The relationship between job resources (autonomy and supervisor support) and job engagement will be stronger for those who are high on extraversion than for those who are low on extraversion.

METHOD

Participants

The sample consisted of 162 individuals (males = 94, females = 68) who were working full-time at the time of data collection. Nearly three quarters of this sample (72.2%, $n = 117$) were individuals contacted through a snowballing technique and the rest (45 participants) were college students from a large public university in Northern California. Table 1 presents the demographic information of the total sample as well as that of each sub-sample. Table 2 presents the means, standard deviations, and bivariate correlations for the total sample.

Table 2 shows that the mean age of participants in the total sample was 30.13 years ($SD = 6.44$), ranging from 18 to 52 years of age. The mean age of the participants was 30.92 years ($SD = 5.89$) for the snowball sample and 28.02 years ($SD = 7.39$) for the student sample. Table 1 shows that Asian participants dominated the total sample (77.8%, $n = 126$), mainly due to the substantial number of Asian participants in the snowball sample (94.9%, $n = 111$). However, the ethnic composition of the student sample was diverse with Caucasians, Asians, and Hispanics forming almost 90% of the sample. In terms of education level, most participants (72.8%, $n = 118$) held graduate degrees, mainly due to the majority of the participants in the snowball sample holding graduate degrees. However, the majority of the participants in the student sample was undergraduates (80%, $n = 36$).

In the snowball sample, most of the participants were working at supervisory (30.8%, $n = 36$) or managerial levels (48.7%, $n = 57$), whereas in the student sample, as

was expected, most participants were working in entry (37.8%, $n = 17$) or supervisory level jobs (33.3%, $n = 15$). A little less than half of the total sample worked 40-44 hours per week, however, a small but substantial number of participants (26.5%, $n = 31$) in the snowball sample worked over 60 hours. The majority of participants had 1 to 5 years of experience with their current employers (47.5%, $n = 77$) and 6-10 years experience in total (41.4%, $n = 67$).

One third of the total participants (34%, $n = 55$) were working in the technology industry, and a nearly equal number of participants (32.7%, $n = 53$) worked in “Other” industries (e.g., Media, Events, Telecommunications, Travel and Hospitality). This pattern was also true for the participants in the snowball sample (38.5% in technology and 31.6% in ‘Other’ industries, respectively). Many of the student sample (35.6%, $n = 16$) were working in ‘Other’ industries, and 22.2% ($n = 10$) worked in the technology industry. Finally, more than 50% of the total participants worked in medium to large sized organization.

In sum, participants in the snowball sample consisted of individuals who were more likely Asians, held graduate degrees, worked as managers, worked longer, and were placed in larger organizations than those in the student sample.

Table 1. *Summary of Samples' Demographic Characteristics*

Demographic variable		Total sample (N = 162)		Snowball sample (N = 117)		Student sample (N = 45)	
		n	%	n	%	n	%
Sex	Male	94	58.0	77	65.8	17	37.8
	Female	68	42.0	40	34.2	28	62.2
Age	18-22	13	8.0	3	2.6	10	22.2
	23-27	45	27.8	29	24.8	16	35.6
	28-32	65	40.1	55	47.0	10	22.2
	33-37	22	13.6	18	15.4	4	8.9
	38-42	7	4.3	5	4.3	2	4.4
	43-47	6	3.7	4	3.4	2	4.4
	48-52	4	2.5	3	2.6	1	2.2
	Over 52	0	0.0	0	0.0	0	0.0
Ethnicity	Caucasian/White	19	11.7	4	3.4	15	33.3
	African American/Black	4	2.5	1	0.9	3	6.7
	Hispanic/Mexican	10	6.2	0	0.0	10	22.2
	Asian	126	77.8	111	94.9	15	33.3
	Multi-ethnicity/Other	2	1.2	1	0.9	1	2.2
Education	Undergraduate	44	27.2	8	6.8	36	80.0
	Graduate	118	72.8	109	93.2	9	20.0
Job level	Entry	41	25.3	24	20.5	17	37.8
	Supervisory	51	31.5	36	30.8	15	33.3
	Managerial	70	43.2	57	48.7	13	28.9
Hours of work per week	40-44	70	43.2	36	30.8	34	75.6
	45-49	24	14.8	18	15.4	6	13.3
	50-54	30	18.5	27	23.1	3	6.7
	55-59	5	3.1	5	4.3	0	0.0
	Over 60	33	20.4	31	26.5	2	4.4

Table 1. *Summary of Samples' Demographic Characteristics (Continued.)*

Demographic variable		Total sample (N = 162)		Snowball sample (N = 117)		Student sample (N = 45)	
		n	%	n	%	n	%
Number of years of experience with current employer	less than 1	53	32.7	38	32.5	15	33.3
	1-5	77	47.5	56	47.9	21	46.7
	6-10	21	13.0	13	11.1	8	17.8
	11-15	6	3.7	6	5.1	0	0.0
	16-20	2	1.2	2	1.7	0	0.0
	Over 20	1	.6	0	0.0	1	2.2
Total number of years of experience	less than 1	5	3.1	5	4.3	0	0.0
	1-5	46	28.4	34	29.1	12	26.7
	6-10	67	41.4	47	40.2	20	44.4
	11-15	26	16.0	20	17.1	6	13.3
	16-20	5	3.1	4	3.4	1	2.2
	Over 20	9	5.6	5	4.3	4	8.9
Current industry	Technology	55	34.0	45	38.5	10	22.2
	Healthcare	9	5.6	4	3.4	5	11.1
	Food services	11	6.8	10	8.5	1	2.2
	Manufacturing	6	3.7	5	4.3	1	2.2
	Educational services	1	0.6	0	0.0	1	2.2
	Government	5	3.1	2	1.7	3	6.7
	Financial services	13	8.0	10	8.5	3	6.7
	Retail services	9	5.6	4	3.4	5	11.1
	Other	53	32.7	37	31.6	16	35.6
Current organization size	Less than 100	34	21.0	20	17.1	14	31.1
	100-999	27	16.7	20	17.1	7	15.6
	1000-10000	49	30.2	37	31.6	12	26.7
	Over 10000	52	32.1	40	34.2	12	26.7

Procedure

Data were collected using a questionnaire in two different ways. From the college students, data were collected on campus and from individuals in the personal network of the researcher data were collected via electronic mail. Of the college students (student sample) some participated in the study as part of their course requirements while data from other students were collected in a classroom after obtaining due permission from their instructor/s via electronic mail. The study was introduced to the student sample as an investigation of the relationships among work conditions, work experiences, and employee behavior. Consent forms were then distributed that stated the nature of the research and informed the respondents that participation in the research was voluntary. After the participants signed the consent form, questionnaires were distributed to them that measured (a) job engagement, (b) autonomy, (c) supervisor support, (d) openness to experience, (e) extraversion, and (f) demographic information. Once participants completed the questionnaires, they were given a debriefing sheet.

Data were also collected by sending electronic copies of the consent form and the survey to the researcher's friends and acquaintances through electronic mail (snowball sample). These individuals were also requested to send the survey to others they knew of who were employed full-time thereby creating a snowball sample. Each of the participants who completed the survey was sent a debriefing note electronically. The survey was also hosted online for those who found it difficult and time-consuming to work on electronic copies of the questionnaire. This remarkably increased the number of responses the researcher received. The online survey was designed such that it opened

with the consent form followed by the survey and on the completion of the survey came up the debriefing note.

Measures

Job Engagement. Job engagement was measured using a nine-item short version (Schaufeli, Bakker, & Salanova, 2006) of the Utrecht Work Engagement Scale (UWES). Sample items are “At my work, I feel I am bursting with energy,” and “I get carried away when I am working.” All items were scored on a 7-point Likert-type scale ranging from 0 (*never*) to 6 (*always*). A previous study (Hallberg & Schaufeli, 2006) indicated that the inter-correlations among the subscales of work engagement (vigor, dedication, and absorption) were very high and that a one-dimensional representation of job engagement fitted to the data similarly as the original three-factor solution. Hence, job engagement was conceptualized as a unidimensional construct for the present study. Cronbach’s alpha for the job engagement scale was .89. Scores were summed and averaged. Higher scores indicate more job engagement.

Autonomy. Autonomy was measured with three items adapted from Hackman and Oldham (1980). A sample item is “I have significant autonomy in determining how I do my job.” Participants rated the items on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach’s alpha for the autonomy scale in the present study was .84. Scores were summed and averaged. Higher scores indicate more autonomy.

Supervisor Support. Supervisor support was measured by five items asking participants how much of different kinds of help or cooperation (e.g., care, concern) they

received from their immediate supervisor. The ratings provided ranged from 1 (*none at all*) to 5 (*a great deal*). The measure was based on a scale developed by Abbey, Abramis, and Caplan (1985). In the present study the Cronbach's alpha for the supervisor support scale was .86. Items were summed and averaged. Higher scores indicate more supervisor support perceived.

It should be noted that in the present study autonomy and supervisor support refer to resources available at work as *perceived* by the individual who is receiving them and not opinions of the supervisors or managers who provide these resources, or observations of a third party.

Openness to Experience and Extraversion. The two personality traits, openness to experience and extraversion, were measured using 20 items (10 items for each dimension) from the International Personality Item Pool (IPIP), a scientific collaboratory for the development of advanced measures of personality traits and other individual differences (Goldberg, Johnson, Eber, Hogan, Ashton, Cloninger, & Gough, 2006). Sample items for openness to experience include "I believe in the importance of art," and "I have a vivid imagination." Sample items for extraversion include "I feel comfortable around people," and "I make friends easily." To minimize response bias openness to experience and extraversion items were randomly presented and negatively worded items such as "I am not interested in abstract ideas" for openness to experience and "I don't talk a lot" for extraversion were included. Participants were asked to rate how accurately each item described themselves on a 5-point Likert-type scale ranging from 1 (*very inaccurate*) to 5 (*very accurate*). The negatively worded items were reverse-scored so

that higher scores indicate more openness to experience or more extraversion.

Cronbach's alpha was .70 for openness to experience and .76 for extraversion. Items were summed and averaged for each personality trait. Higher scores indicate more openness to experience and more extraversion.

Demographic Information. Participants were asked to provide information about their sex, age, ethnicity, level of education, job level, the number of hours they worked per week, the number of years of experience they had with their current employer as well as the total number of years of experience, the industry they were currently working in, and the size of their current organization at the time of data collection.

RESULTS

Descriptive Statistics

Descriptive statistics for the measured variables are shown in Table 2. As can be seen from the table, participants on average reported a fairly high degree of autonomy ($M = 4.06$, $SD = .79$), supervisor support ($M = 3.64$, $SD = .88$), openness to experience ($M = 3.67$, $SD = .57$), extraversion ($M = 3.41$, $SD = .61$), and job engagement ($M = 4.35$, $SD = 1.00$).

Correlations

Table 2 also demonstrates the correlations among the measured variables. Some demographic variables were found to be significantly correlated with the criterion variable, job engagement. Education ($r = .16$, $p < .05$), job level ($r = .20$, $p < .05$), and hours of work per week ($r = .17$, $p < .05$) were positively and significantly correlated with job engagement. This means the more the respondents were educated, the higher they were placed in their jobs, and/or the longer they worked per week, the more job engagement they experienced. Due to their significant correlations with job engagement, these three variables were used as control variables while testing the hypotheses.

Some demographic variables were also found to be related to the predictor variables (i.e., autonomy, supervisor support, openness to experience, and extraversion). For example, age ($r = -.21$, $p < .01$) and education ($r = -.15$, $p < .05$) were negatively but significantly related to extraversion, suggesting that younger employees and undergraduates were more extraverted than older employees and graduates, respectively.

Job level was positively related to autonomy ($r = .17, p < .05$), suggesting that those with higher job levels reported more autonomy.

Although the predictor variables were correlated with each other, the magnitudes of the correlations were not strong enough to be of any major concern; autonomy was related to supervisor support ($r = .28, p < .01$), openness to experience ($r = .20, p < .05$), and extraversion ($r = .20, p < .05$). Supervisor support was related to extraversion ($r = .17, p < .05$) but unrelated to openness to experience ($r = .13, p = .11$). Finally, extraversion was related to openness to experience ($r = .18, p < .05$).

All of the predictor variables correlated positively and significantly with job engagement. Autonomy and supervisor support were correlated with job engagement at $r = .46, p < .01$ and $r = .41, p < .01$, respectively and openness to experience and extraversion were correlated with job engagement at $r = .16, p < .05$ and $r = .20, p < .05$, respectively. A closer look at these correlations reveals that the relationships between situational variables (i.e., autonomy and supervisor support) and job engagement are stronger compared to the relationships between personality variables (i.e., openness to experience and extraversion) and job engagement.

Table 2. Means, Standard Deviations, and Bivariate Correlations for Total Sample

Variable	Mean	SD	1	2	3	4	5	6	7	8
1 Sex	.42	.49								
2 Age	30.13	6.44	-.23 **							
3 Education	.73	.44	-.20 *	.21 **						
4 Job level	1.18	.81	-.04	.23 **	.24 **					
5 Hours of work per week	48.90	10.98	-.22 **	.06	.34 **	.27 **				
6 Number of years of experience with current employer	3.31	3.73	-.07	.47 **	-.05	.28 **	.04			
7 Total number of years of experience	8.57	6.17	-.11	.84 **	-.12	.20 *	-.07	.59 **		
8 Current organization size	1.73	1.13	-.27 **	.15	.12	.00	.07	.12	.08	
9 Autonomy	4.06	.79	-.03	.04	-.01	.17 *	-.07	.11	.07	-.01
10 Supervisor support	3.64	.88	.03	-.02	-.04	.09	.02	.06	.00	-.11
11 Openness to experience	3.67	.57	.03	.01	.10	.11	.00	.08	.02	-.06
12 Extraversion	3.41	.61	.08	-.21 **	-.15 *	.05	-.10	.02	-.09	-.06
13 Job engagement	4.35	1.00	.01	.10	.16 *	.20 *	.17 *	.15	.08	-.14

*p<.05, **p<.01, N = 160

Note: Reliability coefficients presented on the diagonal in bold

Table 2. Means, Standard Deviations, and Bivariate Correlations for Total Sample (Continued.)

Variable	9	10	11	12	13
1 Sex					
2 Age					
3 Education					
4 Job level					
5 Hours of work per week					
6 Number of years of experience with current employer					
7 Total number of years of experience					
8 Current organization size					
9 Autonomy	.84				
10 Supervisor support	.28 **	.86			
11 Openness to experience	.20 *	.13	.69		
12 Extraversion	.20 *	.17 *	.18 *	.76	
13 Job engagement	.46 **	.41 **	.16 *	.20 *	.89

*p<.05, **p<.01, N = 160

Note: Reliability coefficients presented on the diagonal in bold

Tests of Hypotheses

Before testing the hypotheses, the researcher examined whether there were any differences between the snowball sample and the student sample on the measured variables, especially on job engagement. Furthermore, given that most of the sample consisted of Asians (77.8%), the researcher conducted an analysis to determine if there were any differences between Asian and non-Asian participants on the measured variables. Therefore, two one-way multivariate analyses of variance (MANOVA) were conducted using autonomy, supervisor support, openness to experience, extraversion, and job engagement as dependent variables. Means and standard deviations of these variables are shown in Table 3.

The results of the two MANOVA showed that there was a significant difference between the snowball sample and the student sample, $F(5,156) = 4.13$, Wilks' $\lambda = .88$, $p < .01$, and also between Asians and non-Asians, $F(5,155) = 2.52$, Wilks' $\lambda = .93$, $p < .05$. Further analyses showed that the snowball sample and the student sample differed on the personality variable of extraversion $F(1,160) = 4.86$, $p < .05$ and on job engagement $F(1,160) = 5.11$, $p < .05$. Table 3 shows that college students had a significantly higher level of extraversion than the individuals in the snowball sample ($M = 3.58$, $SD = .66$ and $M = 3.35$, $SD = .58$, respectively) but lower levels of job engagement than the individuals in the snowball sample ($M = 4.08$, $SD = 1.17$ and $M = 4.47$, $SD = .92$, respectively).

The Asian sample and the non-Asian sample differed only on job engagement, $F(1,159) = 5.18$, $p < .05$. Table 3 shows that Asians experienced a significantly higher

level of job engagement ($M = 4.45$, $SD = .94$) than non-Asians ($M = 4.02$, $SD = 1.18$).

Given these results, the hypotheses were tested after controlling for type of sample (snowball vs. student) and participants' ethnicity (Asian vs. non-Asian) along with the aforementioned demographic variables (i.e., education, job level, and hours of work per week) due to their significant correlations with job engagement.

Table 3. *Means and Standard Deviations for Snowball and Student samples and Asians and non-Asians*

Variable	Snowball sample (n = 117)		Student sample (n = 45)		Asians (n = 126)		non-Asians (n = 35)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1 Autonomy	4.05	.82	4.10	.74	4.04	.84	4.15	.62
2 Supervisor support	3.61	.87	3.76	.91	3.65	.86	3.65	.96
3 Openness to experience	3.68	.61	3.57	.48	3.63	.59	3.73	.57
4 Extraversion	3.35	.58	3.58	.66	3.38	.61	3.52	.60
5 Job engagement	4.47	.92	4.08	1.17	4.45	.94	4.02	1.18

Hypothesis 1 stated that autonomy (*H1a*) and supervisor support (*H1b*) would be positively associated with job engagement. Hypothesis 2 stated that openness to experience (*H2a*) and extraversion (*H2b*) would be positively associated with job engagement. Finally Hypothesis 3 stated that the relationship between job resources (autonomy and supervisor support) and job engagement will be stronger for those who are high on openness to experience (*H3a*) and extraversion (*H3b*) than for those who are low on openness to experience and extraversion, respectively. To test these hypotheses, two moderated hierarchical regression analyses with a Type I error rate of .05 were used. In the first moderated hierarchical regression analysis (Analysis 1), education, job level, hours of work per week, sample type (snowball vs. student), and participants' ethnicity (Asian vs. non-Asian) were entered as control variables. In the second step, situational variables (i.e., autonomy and supervisor support) were entered into the equation. Personality traits (i.e., openness to experience and extraversion) were entered in the third step. Finally, in the fourth step, interaction terms between each of the situational variables and each of the personality variables were entered (i.e., autonomy x openness to experience, supervisor support x openness to experience, autonomy x extraversion, and supervisor support x extraversion).

In the second moderated hierarchical regression analysis (Analysis 2), only the order of the entry of the situational variables (i.e., autonomy and supervisor support) and personality variables (i.e., openness to experience and extraversion) was reversed. In other words, the control variables were entered in the first step. In the second step, the personality traits (i.e., openness to experience and extraversion) were entered into the

equation. The third step included the situational variables (i.e., autonomy and supervisor support). In the fourth step, interaction terms were entered (i.e., autonomy x openness to experience, supervisor support x openness to experience, autonomy x extraversion, and supervisor support x extraversion).

Results of Analysis 1 and Analysis 2 are shown in Tables 4 and 5, respectively. It should be noted that the first and the fourth steps are common for both the analyses as they include the same variables. This means that the results of these steps are also the same for both the analyses. Therefore, both the tables show that the control variables in the first step explained 8% of the variance in job engagement, ($R^2 = .08$, $F(5,155) = 2.53$, $p < .05$). However none of these variables were significantly related to job engagement, Education ($\beta = -.02$, $p = .87$), job level ($\beta = .15$, $p = .06$), hours of work per week ($\beta = .10$, $p = .25$), snowball sample/ student sample ($\beta = -.06$, $p = .67$) and Asians/ non-Asians ($\beta = -.11$, $p = .30$).

The second step in Analysis 1 tested the main effects of the two situational variables, autonomy and supervisor support, on engagement. Table 4 shows that the overall relationship of this step was significant, $R^2 = .37$, $F(7,153) = 13.06$, $p < .001$. The two situational variables together explained an additional 30% of the variance in job engagement above and beyond the variance explained by the control variables, $\Delta R^2 = .30$, $\Delta F(2,153) = 36.49$, $p < .001$. Each of these situational variables was also related significantly to job engagement; autonomy ($\beta = .38$, $p < .001$) and supervisor support ($\beta = .31$, $p < .001$).

The third step in Analysis 1 tested the main effects of the two personality variables, openness to experience and extraversion, on engagement, after controlling for the effects of the situational variables. Table 4 shows that the overall relationship of this step was significant, $R^2 = .39$, $F(9,151) = 10.52$, $p < .001$. However, the two personality variables together explained only additional 1% of the variance in job engagement above and beyond the variance explained by the control variables and the situational variables, $\Delta R^2 = .01$, $\Delta F(2,151) = 1.39$, $p = .25$. Further, neither openness to experience ($\beta = .00$, $p = .98$) nor extraversion ($\beta = .11$, $p = .10$) were significantly related to job engagement.

The fourth step in Analysis 1 tested the interaction effects between the situational variables and the personality variables. This step showed a significant overall relationship, $R^2 = .41$, $F(13,147) = 7.69$, $p < .001$. However, the interaction terms only explained an additional 2% of the variance in job engagement above the beyond the variance explained by the control variables, situational variables, and the personality variables, $\Delta R^2 = .02$, $\Delta F(4,147) = 1.20$, $p = .31$. Moreover, none of the interaction terms was significant, autonomy x openness to experience ($\beta = .79$, $p = .16$); supervisor support x openness to experience ($\beta = -.45$, $p = .38$); autonomy x extraversion ($\beta = -.77$, $p = .26$); supervisor support x extraversion ($\beta = -.18$, $p = .76$).

As mentioned earlier, Analysis 2 shared the first and fourth step with Analysis 1. The second step in Analysis 2 tested the main effects of the two personality variables, openness to experience and extraversion, on engagement. A look at Table 5 shows that the overall relationship of this step was significant, $R^2 = .13$, $F(7,153) = 3.17$, $p < .05$. The two personality traits together explained an additional 5% of the variance in job

engagement above and beyond the variance explained by the control variables, $\Delta R^2 = .05$, $\Delta F(2,153) = 4.48$, $p < .05$. However, only extraversion was related significantly to job engagement ($\beta = .21$, $p < .05$). The third step in Analysis 2 consisted of testing the main effects of the two situational variables, autonomy and supervisor support, on engagement, after controlling for the effects of the personality traits. Results showed that not only was the overall relationship significant, $R^2 = .39$, $F(9,151) = 10.52$, $p < .001$, but also the two situational variables together explained an additional 26% of variance in job engagement above and beyond the variance explained by the control variables and the personality variables, $\Delta R^2 = .26$, $\Delta F(2,151) = 31.79$, $p < .001$. Moreover, both autonomy and supervisor support were significantly related to job engagement ($\beta = .37$, $p < .001$ and $\beta = .30$, $p < .001$, respectively).

Taken together, the results of the two moderated hierarchical regression analyses show that both autonomy and supervisor support were positively related to job engagement (see Table 4). The relationship between these situational variables and job engagement remained significant even after controlling for the effects of the personality traits (see Table 5). These results thus show support for Hypotheses 1a and 1b which stated that autonomy and supervisor support, respectively, would be positively associated with job engagement.

However, unlike situational variables, the contribution of the personality variables in predicting job engagement depended on the order of their entry into the regression equation. More specifically, when they were entered into the regression equation after the situational variables (see Table 4), both the personality variables did not show any

relation to job engagement. However, when they were entered before the situational variables, only extraversion remained significant of the two personality variables (see Table 5). These results show that Hypothesis 2a was not supported but Hypothesis 2b was partially supported. That is, extraversion was positively related to job engagement when job resources were not taken into account.

Finally, results showed that the situational variables and the personality traits did not interact with each other to influence job engagement. Thus, both Hypothesis 3a and 3b were not supported.

Table 4. *Summary of Moderated Hierarchical Regression Analysis 1*

Variable	β	R	R ²	ΔR^2
1 Education	-.02	.28	.08	.08 *
Job level	.15			
Hours of work per week	.10			
Snowball sample/ College students' sample	-.06			
Asian/ Non-Asian participants	-.11			
2 Autonomy	.38 ***	.61	.37	.30 ***
Supervisor support	.31 ***			
3 Openness to experience	.00	.62	.39	.01
Extraversion	.11			
4 Autonomy x Openness to experience	.79	.64	.41	.02
Supervisor support x Openness to experience	-.45			
Autonomy x Extraversion	-.77			
Supervisor support x Extraversion	-.18			

Note: * $p < .05$, ** $p < .01$, *** $p < .001$; N = 160

Table 5. *Summary of Moderated Hierarchical Regression Analysis 2*

Variable	β	R	R ²	ΔR^2
1 Education	-.02	.28	.08	.08 *
Job level	.15			
Hours of work per week	.10			
Snowball sample/ College students' sample	-.06			
Asian/ Non-Asian participants	-.11			
2 Openness to experience	.07	.36	.13	.05 *
Extraversion	.21 *			
3 Autonomy	.37 ***	.62	.39	.26 ***
Supervisor support	.30 ***			
4 Autonomy x Openness to experience	.79	.64	.41	.02
Supervisor support x Openness to experience	-.45			
Autonomy x Extraversion	-.77			
Supervisor support x Extraversion	-.18			

Note: * $p < .05$, ** $p < .01$, *** $p < .001$; N = 160

DISCUSSION

Job engagement has been receiving increasing research attention as interest in the area of positive psychology increases. Consequently, a great deal of research in job engagement has been dedicated to identifying potential antecedents of job engagement (e.g., Demerouti et al., 2001; Saks, 2006; Mauno et al., 2007; Xanthapoulou et al., 2007). The Job Demand-Resources (JD-R) model by Demerouti et al. (2001) states that job engagement is enhanced by available job resources like autonomy, supervisor support, and task variety. This is so because job resources help in achieving job goals; reduce the effects of job demands, and stimulate employees' growth, learning, and development (Demerouti et al., 2001). Much research has shown considerable support for the contribution of resources in predicting job engagement (Bakker et al., 2003; Saks, 2006; Hallberg et al., 2007; Mauno et al., 2007)

Therefore, one purpose of the present study was to examine the degree to which situational resources (i.e., autonomy and supervisor support) would be related to job engagement in order to better understand how job engagement develops. It was hypothesized that the two job resources, autonomy (*H1a*) and supervisor support (*H1b*), would be positively related to job engagement. Results of the correlation analysis as well as the regression analyses support the proposition of the JD-R model as it was found that autonomy and supervisor support were, in fact, positively and significantly correlated with job engagement.

It should be noted that our behaviors are as much determined by our personalities as the environment and yet the role of personal antecedents in the research on employee

well-being has been either largely ignored or under-explored (Cooper et al., 2001; Hallberg et al., 2007). The JD-R model too does not delve into the role of personal factors in the development of job engagement. Therefore, the present study sought to determine the associations between two of the Big Five personality traits, openness to experience and extraversion, and job engagement. It is seen that individuals high on openness to experience enjoy greater psychological well-being (Keyes et al., 2002) as they actively seek out better ways and experiences to improve themselves (Digman, 1990; John, 1990). Further, studies have shown that extraversion is a strong predictor of well-being (Diener, 1984) and therefore, not surprisingly, related to work engagement (Langelaan et al., 2006).

Thus, it was hypothesized that openness to experience (*H2a*) and extraversion (*H2b*) would be positively related to job engagement. The results of the correlation analysis showed that, indeed, the two personality variables predicted job engagement positively. That is, the more open to experience and extraverted individuals are, the more likely they are to experience job engagement. However, the results of the hierarchical regression analyses show that when situational variables were not taken into account, of the two personality variables only extraversion was positively related to job engagement. However, once situational variables were controlled for even extraversion ceased to remain a significant predictor of job engagement. In other words, once situational variables were accounted for, these personality traits did not predict job engagement. Interestingly, the effects of the situational variables on job engagement remained significant even after controlling for the effects of the personality variables.

This might suggest that when job resources are present personality traits may not make much of a contribution in predicting one's job engagement. However, the results also indicate that when job resources are lacking, having an extraverted personality might be beneficial towards feeling engaged on one's job. This supports the assumption that extraversion is a fair indicator of happiness and that extraverted individuals are prone to feel more positive than negative emotions (Diener et al., 1999; Diener & Seligman, 2002; Costa & McCrae, 1980).

The results of the study further suggest that job resources might be more important than personality traits in predicting job engagement since they remained significant predictors of job engagement irrespective of the presence of personality traits. These findings imply that if organizations want to have engagement employees, it might be easier for them to work on resources by providing or increasing job autonomy and supervisor support to their employees than hire those who are extraverted.

Another important goal of this study was to examine if and how situational variables and individual characteristics would interact to influence job engagement, given that workplace behavior is best understood when both these factors are taken into consideration (Hattrup & Jackson, 1996). Given the findings that openness to experience moderates the relationship between job characteristics and job satisfaction (de Jong et al., 2001) and extraversion moderates the relationship between leader-member exchange and several outcome variables like performance, turnover intentions, and actual turnover (Bauer et al., 2006), it was hypothesized that the relationship between job resources and job engagement would be moderated by openness to experience (*H3a*) and extraversion

(*H3b*). However, results showed no such interaction effects, i.e., neither of the personality variables moderated the relationship between the job resources and job engagement.

The lack of interaction could be a result of many factors, one among them being weak correlations between the two job resources and the two personality dimensions. This implies that in the present sample those who were open to experience and extraverted did not differ much from those who were not so open to experience and extraverted, respectively, in how they perceived their job resources. In fact, where supervisor support is concerned, the present study implies that it did not matter if a person was open to experience or not. Such weak relationships could mean that there are other variables at play in the interaction of job resources and job engagement which are not studied here.

The lack of an interaction effect could also be due to the fact that the job resources exerted a stronger impact on engagement as compared to the personality traits (main effect for job resources, see Table 5). Once the effects of job resources were accounted for, personality traits really did not predict job engagement (main effect for personality traits, see Table 4). This suggests that, perhaps, the effects of job resources overshadow the influence of personality characteristics on job engagement. Hence, regardless of personality traits, if one has job resources, our results show that job engagement is likely to increase.

Another reason for the lack of interaction could be due to the fact that the sample consisted of a majority of Asians who may be culturally inclined to differ in their

exhibition of the openness to experience and extraversion traits. Eap, DeGarmo, Kawakami, Hara, Hall, and Teten (2008) have found that Asian Americans scored lower than European Americans on openness to experience and extraversion. Indeed, in the current sample Asian participants scored relatively lower on openness to experience and extraversion dimensions as compared to the non-Asian participants who were mainly Caucasians, African Americans, and Hispanic. In addition, the Asian sample experienced higher job engagement (despite relatively lower scores on openness to experience and extraversion) than the non-Asian sample. These findings give a further indication that openness to experience and extraversion might not be the best moderators of the relationship between job resources and job engagement nor the best predictors of job engagement for this particular sample (i.e., Asian or Asian American).

Although the hypotheses regarding the interaction effects were not supported, several interesting findings were obtained. Education, job level, and hours of work per week were found to be significantly and positively related to job engagement. Part of these findings has been evidenced by Schaufeli et al. (2006) who found that engagement was higher for highly placed individuals as compared to those who occupied lower job levels. Schaufeli and his colleagues explained that this was possibly because those in high level jobs (e.g., managers, educators, police officers) made more use of job resources that are known to enhance job engagement compared to those who occupied lower job levels (e.g., blue collar workers). The positive relationship between education and job engagement makes logical sense. A higher education is more likely to equip an individual with better mechanisms to deal with work-related issues in such a way to

increase one's absorption with work. Longer work-hours per week could be a consequence of job engagement rather than its cause. That is, people are engaged with their jobs they work longer because they are too absorbed and committed to their work to watch the clock.

Limitations and Future Research

Despite the several contributions of the present study, it is not without its limitations. One major constraint of the study is its cross-sectional design. Due to its sheer nature of being a one-time study, a cross-sectional design cannot make causal inferences and is ill-equipped in exploring processes involved in the development of behaviors over time. In future, longitudinal designs may be used in order to better understand the antecedents of job engagement.

Further, the present study used self-report data to assess job resources. That is, the participants responded with their own perceptions of how much autonomy and supervisor support they enjoyed at work. This, inadvertently, makes way for the common method bias wherein the relationship among the variables might be influenced more by the method of measurement (i.e., self-report) than by the real relationship among the constructs. To circumvent this problem, data on the kind of job resources that are available to the employee may be collected through observer ratings from a source that is both objective and knowledgeable of the situation and the employee in question. Such a different methodological approach may also succeed in capturing any interaction effects between the variables under study.

Another limitation of the study is a relatively small sample size and a large number of Asian participants, making it difficult to generalize the results to other racial/ethnic groups. It is seen that cultural variables can be associated with personality dimensions (Eap et al., 2008), thus future studies need to have a larger sample consisting of an equal number of various ethnicities so that the sample is more representative of the population at large.

In the present study, openness to experience and extraversion were found to have weak but significant correlation coefficients with job engagement. However, in the regression analysis, after controlling for several other variables, openness to experience and extraversion ceased to be related to job engagement and also did not interact with job resources. Therefore, future studies might explore other personality variables (e.g., conscientiousness, neuroticism) to see if they are more related to job engagement than the ones included in the current study.

Practical Implications of the Present Study

The findings of the present study suggest that job resources might be essential determinants of job engagement and possibly more important than personality traits or characteristics. Keeping this in mind, organizations could place more emphasis on improving and strengthening the resources they make available to their workforce in order to increase job engagement. Organizations could also take valuable inputs from employees on what kind of improvements they may need in the job resources available to them. Companies could also hire more educated individuals and proactively promote the good performers to higher job levels in order to enhance their engagement with their jobs.

Conclusion

The current study supported an important proposition of the JD-R model of job engagement that job resources are positively linked to job engagement. Further, the study tried to examine whether personality traits and job resources worked together to enhance job engagement. While no such interaction was found, it was evident from the results that job resources were the most significant antecedents of job engagement and, as was apparent in the current study, more important than personality resources. Hence organizations may be better off improving on their situational resources than selecting those with certain personality traits if they want to create an engaged workforce.

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APPENDIX A

Survey Items

Survey Items

Job engagement (Schaufeli, Bakker, & Salanova, 2006)

1. At my work, I feel I am bursting with energy.
2. At my job, I feel strong and vigorous.
3. I am enthusiastic abouts my job.
4. My job inspires me.
5. When I get up in the morning, I feel like going to work.
6. I feel happy when I am working intensely.
7. I am proud of the work that I do.
8. I am immersed in my work.
9. I get carried away when I am working.

Autonomy (Hackman & Oldham, 1980)

1. I have significant autonomy in determining how I do my job.
2. I can decide on my own how to go about doing my work.
3. I have considerable opportunity for independence and freedom in how I do my job.

Supervisor support (Abbey, Abramis, & Caplan, 1985)

1. Useful information
2. Care and concern
3. Help in thinking through a problem
4. Help in getting materials, supplies, or services you needed
5. Praise and appreciation

Openness to experience and Extraversion (Goldberg, Johnson, Eber, Hogan, Ashton, Cloninger, & Gough, 2006)

I.....

1. believe in the importance of art.
2. don't talk a lot.
3. have a vivid imagination.
4. don't like to draw attention to myself.
5. tend to vote for liberal political candidates.
6. would describe my experiences as somewhat dull.
7. carry the conversation to a higher level.
8. keep in the background.
9. enjoy hearing new ideas.
10. have little to say.
11. am not interested in abstract ideas.

12. know how to captivate people.
13. do not like art.
14. am the life of the party.
15. avoid philosophical discussions.
16. am skilled in handling social situations.
17. do not enjoy going to art museums.
18. make friends easily.
19. tend to vote for conservative political candidates.
20. feel comfortable around people.

APPENDIX B

Debriefing

Debriefing

Title of study: Job engagement: Examining the Relationship with Situational and Personal Factors.

I would like to tell you a little bit about my study. First and foremost, thank you very much for participating in my study. Your responses are vital for this research and I would like to reinstate that your confidentiality will be maintained throughout the study and after.

Now, about my topic: I am specifically looking at job engagement which in layman's terms is the engagement level of a person with respect to his job. It is a relatively new concept in the field of Industrial and Organizational Psychology. It tells us how absorbed, dedicated, and vigorous a person is in his/her job.

Job engagement is empirically shown to be related to job resources. I have chosen autonomy and supervisor support as the resources available at work and expect to find:

- a) A positive correlation between autonomy and job engagement.
- b) A positive correlation between supervisor support and job engagement

We also take our personalities to work i.e., our personalities affect our work. However, only recently, researchers are beginning to answer questions about whether personality plays a part in one's engagement on the job. Based on empirical research, I have chosen two of the Big Five factors: Openness to experience (Openness), and extraversion as personality dimensions and I seek to find if:

- a) There is a positive correlation between openness to experience and job engagement
- b) There is a positive correlation between extraversion and job engagement
- c) Job resources interact with personality to influence job engagement

In the questionnaire you filled just moments ago, I have asked you questions about the nature of the resources (autonomy, and supervisor support) you receive at work, along with questions about your job engagement and about your personality i.e., your level of openness to experience and extraversion. The responses that you have provided me with will, potentially, help find the answers to the above questions.

I request you to not share this information with others who have not participated in this study yet. Thank you once again for your participation. If you have any questions concerning the topic of my study, please do not hesitate to contact me at _____.